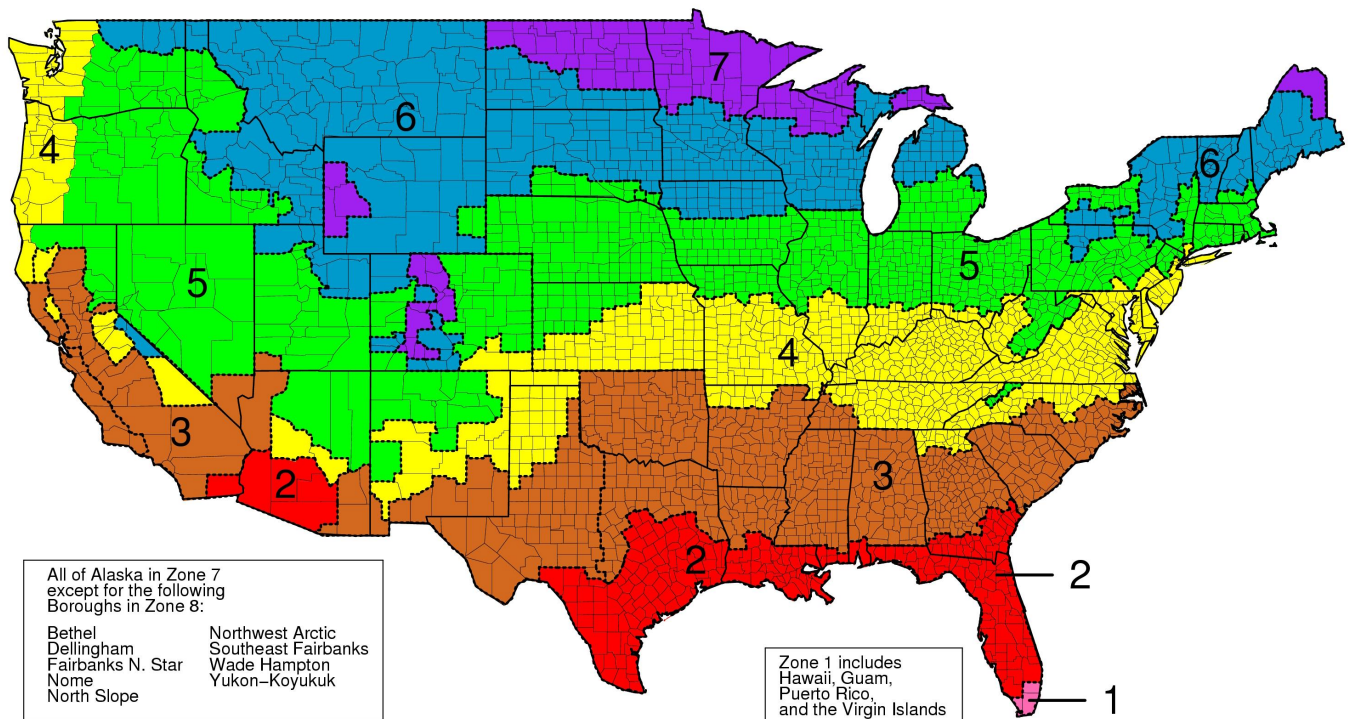


AEDG Implementation Recommendations: Cool Roofs

The Advanced Energy Design Guide (AEDG) seeks to achieve 30 percent savings over Standard 90.1-1999. This guide focuses on improvements to small office buildings, less than 20,000 square feet. The recommendations below are adapted from the implementation section of the guide, and should be used in cooperation with the whole document.* The full design guide is available from the ASHRAE website, [Advanced Energy Design Guide for Small Office Buildings](#) .

Cool Roofs (Climate Zones: 1 2 3)



Cool roofs are recommended for metal building roofs and roofs with insulation entirely above deck. In order to be considered a cool roof for warm climate zones, the following conditions apply:

1. The roof has a high reflectance. The high reflectance keeps much of the sun's energy from being absorbed.
2. The roof has a high thermal emittance. The high emittance radiates away any solar energy that is absorbed, allowing the roof to cool more rapidly.

The radiative property values should be rated by a laboratory accredited by the [Cool Roof Rating Council](#) .

Cool roofs are typically white and have a smooth texture. Commercial roofing products that qualify as cool roofs fall in two categories: Single-ply and liquid applied.

Examples of single-ply products include:



- White PVC (Polyvinyl Chloride)
- White CPE (Chlorinated Polyethylene)
- White CPSE (Chlorosulfonated Polyethylene, e.g. Hypalon)
- White TPO (Thermoplastic Polyolefin)

Liquid-applied products may be used to coat a variety of substrates. Products include:

- White elastomeric, polyurethane, or acrylic coatings
- White paint (on metal or concrete)

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